CLAIMS

What is claimed is:

1. A method for mirroring of select network traffic, the method comprising:

    receiving a data packet by a network device;

    determining whether a designated aspect of the packet matches a flagged entry in a look-up table on the network device; and

    sending a copy of the packet to an associated mirror destination if a match is found.

2. The method of claim 1, wherein the LUT comprises a media access (MAC) address table.

3. The method of claim 2, wherein the designated aspect used for matching comprises a source MAC address.

4. The method of claim 2, wherein the designated aspect used for matching comprises a destination MAC address of the packet.

5. The method of claim 2, wherein the designated aspect used for matching comprises both a source MAC address and a destination MAC address of the packet, and wherein the match is found if either matches.

6. The method of claim 2, wherein the designated aspect used for matching comprises both a source MAC address and a destination MAC address of the packet, and wherein the match is found if both matches.

7. The method of claim 1, wherein the LUT comprises an Internet protocol (IP) address table.

8. The method of claim 7, wherein the designated aspect used for matching comprises a source IP address.

9. The method of claim 7, wherein the designated aspect used for matching comprises a destination IP address of the packet.

10. The method of claim 7, wherein the designated aspect used for matching comprises both a source IP address and a destination IP address of the packet, and wherein the match is found if either matches.

11. The method of claim 7, wherein the designated aspect used for matching comprises both a source IP address and a destination IP address of the packet, and wherein the match is found if both matches.

12. The method of claim 1, wherein the LUT comprises a subnet table.

13. The method of claim 12, wherein the designated aspect used for matching comprises a destination IP address, and wherein a match is found if the destination address is within a flagged subnet in the subnet table.

14. The method of claim 12, wherein the designated aspect used for matching comprises a source IP address, and wherein a match is found if the source address is within a flagged subnet in the subnet table.

15. The method of claim 12, wherein the designated aspect used for matching comprises both a source IP address and a destination IP address, and wherein a match is found if either of the addresses are within a flagged subnet in the subnet table.

16. The method of claim 12, wherein the designated aspect used for matching comprises both a source IP address and a destination IP address, and wherein a match is found if both of the addresses are within a flagged subnet in the subnet table.

17. The method of claim 1, wherein the LUT comprises an access control list (ACL).

18. The method of claim 17, wherein the designated aspect comprises a filter element.

19. The method of claim 1, wherein the determination of a match is accomplished by way of a linear search.

20. The method of claim 1, wherein the determination of a match is accomplished by using a hash table.

21. The method of claim 1, wherein the determination of a match is accomplished utilizing a b-tree searching algorithm.

22. The method of claim 1, wherein the look-up table is stored in content addressable memory.

23. The method of claim 1, wherein the determination of a match is accomplished using a search process that stops when a first match to the designated aspect is found, irregardless of whether the entry found is flagged for mirroring.

24. A networking apparatus, the apparatus comprising:
an operating system including routines utilized to control the apparatus;
a look-up table including selection information for mirror sources therein; and
a mirroring engine for forwarding copies of selected packets to at least one corresponding mirror destination.

25. The apparatus of claim 24, wherein a packet is mirrored if a designated aspect of the packet matches a flagged entry in the look-up table.

26. The apparatus of claim 24, wherein multiple mirror sources correspond to the mirror destination(s).

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27. The apparatus of claim 24, wherein the apparatus supports multiple mirror sessions, wherein each mirror session comprises at least one mirror source and at least one corresponding mirror destination.

28. The apparatus of claim 24, wherein the look-up table comprises a MAC address table.

29. The apparatus of claim 24, wherein the look-up table comprises an IP address table.

30. The apparatus of claim 24, wherein the look-up table comprises a subnet table.

31. The apparatus of claim 24, wherein the look-up table comprises an access control list.

32. A method of selecting packets to mirror from network traffic, the method comprising:
   receiving a data packet by a network device;
   determining whether characteristics of the packet matches static mirroring criteria from a look-up table on the network device;
   checking state information relating to the network traffic against dynamic mirroring criteria; and
   sending a copy of the packet to an associated mirror destination if the characteristics of the packet matches the static mirroring criteria and if the state information matches the dynamic mirroring criteria.

33. The method of claim 32, wherein the state information comprises a number of packets so far matching the static mirroring criteria, and wherein at least one counter is used to maintain the state information.

34.   The method of claim 32, wherein the state information comprises a time between mirrored packets.

35.   The method of claim 32, wherein the state information comprises whether a valid TCP connection has been formed.

36.   The method of claim 32, wherein the state information comprises whether an allocated bandwidth has been used up.